psychological analysis of the neuroses. Nothing new is brought out; the analyses are poorly presented, and for the most part are not at all consistent with the accepted physiology of the cell and the nervous system. The subject matter presented in the volume would have made a good paper; presented in book form, it is somewhat disappointing. If it leads to a closer study of the teeth in conditions of lowered nerve tone, it will perhaps serve a useful purpose.

D. J. McC.

PATHOLOGICAL TECHNIQUE. A PRACTICAL MANUAL FOR WORKERS IN PATHOLOGICAL HISTOLOGY AND BACTERIOLOGY, INCLUDING DIRECTIONS FOR THE PERFORMANCE OF AUTOPSIES AND FOR CLINICAL DIAGNOSIS BY LABORATORY METHODS. By FRANK BURR MALLORY, A.M., M.D., Associate Professor of Pathology in the Harvard University Medical School; and JAMES HOMER WRIGHT, A.M., M.D., S.D., Assistant Professor of Pathology in the Harvard University Medical School. Fourth edition; pp. 480; 152 illustrations. Philadelphia and London: W. B. Saunders Co., 1908.

IT is scarcely necessary to say anything in review of this excellent work, which has reached its fourth edition. The subject matter is treated with extreme clearness, and with such brevity as is possible in a book of its kind. Some of the improvements and additions that deserve mention are: the incorporation of Zinsser's anaërobic method for plate cultures, and three new methods for the cultivation and differentiation of the typhoid bacillus, the ox-bile method, the medium of Endo, and the malachite green method. The paragraphs on actinomycosis have been entirely rewritten and several excellent photographs have been added. Weigert's iron hematoxylin stain for nuclei; improved methods for staining fibroglia, myoglia, and neuroglia fibrils; Wright's method for the differential staining of blood platelets and the giant cells of the bone marrow; Best's improved stain for glycogen; von Kossa's silver method for demonstrating lime salts; staining methods for Treponema pallida; and Sir A. E. Wright's method of preparing bacterial vaccines, have also been added. As a standard book for laboratory workers in general it can be highly recommended.

J. A. K.

PROGRESS

OF

MEDICAL SCIENCE.

MEDICINE.

UNDER THE CHARGE OF
WILLIAM OSLER, M.D.,
REGIUS PROFESSOR OF MEDICINE, OXFORD UNIVERSITY, ENGLAND,
AND
W. S. THAYER, M.D.,
PROFESSOR OF CLINICAL MEDICINE, JOHNS HOPKINS UNIVERSITY, BALTIMORE, MARYLAND.

Aortic Insufficiency and Lues.—CITRON (*Berl. klin. Woch.*, 1908, xlv, 2142) reviews the literature of aortic insufficiency and aortitis, and points out that the histological examination of the aorta in suspected luetic disease has thus far failed to reveal the presence of Spirochæta pallida. The frequency of aortitis in lues is, however, so great that a causal relationship must be assumed. Citron has reviewed the histories of patients with aortic insufficiency admitted to Professor Kraus' clinic in the past four years, and finds that only 14 per cent. gave a definite history of syphilis, while about 26 per cent. were suspected of having had the disease. In the past year and one-half the Wassermann reaction has been tried on all patients with aortic insufficiency, and of 19 cases it was positive in 11. In cases of pure aortic insufficiency—16 in number—10 gave a positive reaction. Without attempting to draw far-reaching conclusions from his few patients, Citron believes it safe to say that lues is a much commoner cause of pure aortic insufficiency than the history and clinical findings would lead one to suspect. Especially in all patients in whom acute articular rheumatism has not existed lues must be considered, but his cases have shown that a positive reaction may be found in instances in which acute articular rheumatism, lead poisoning, alcoholism, and abuse of tobacco were present and thus probably aided in producing the changes in the aorta.

The Substances causing High Pressure in the Blood of Nephritics.—SCHLAYER (*Münch. med. Woch.*, 1908, lv, 2604) had previously reported negative results on examining the blood of nephritics for adrenalin by the method of O. B. Meyer, which consists in the use of arteries obtained fresh from the ox. He found that the blood of nephritics caused even less contraction in the fresh artery than normal blood, whereas one should expect a greater contraction if the adrenalin were increased in the blood. With the enucleated frog's eye mydriasis is the rule with nephritics blood. In an attempt to control these apparently contradictory results, Schlayer resorted to experiments upon animals. He produced an adrenalin anemia by slow infusion of adrenalin in salt solution. By this means an increased amount of adrenalin was brought into the blood, as was shown by the mydriasis in the frog's eye. On testing this blood with fresh artery from the ox he found that there was less contraction of the artery than with normal rabbit's blood, a result analogous to that obtained with the blood of normal individuals and those suffering with nephritis. On adding adrenalin to ox blood and then testing the blood with an artery, an opposite result was obtained, the adrenalin blood causing a much greater contraction than normal ox blood. From this and other experiments he was able to demonstrate that an increased amount of adrenalin in the blood would only react to a fresh artery when both blood and artery were obtained from the same species. He concludes, therefore, that the Meyer test is misleading when the artery of an ox is used for testing the blood from any other animal. This probably explains the contradictory results in patients suffering with nephritis and re-opens the question as to whether adrenalin is increased in the blood in these patients.

The Demonstration of Parasites in the Blood.—STÄUBLI (*Münch. med. Woch.*, 1908, lv, 2601) demonstrated some time ago that trichina embryos are easily found in the heart blood of experimental animals, if one adds to the blood 3 per cent. acetic acid to lake the red cells and then centrifugalizes the specimen and examines the sediment, which contains leukocytes and any embryos which are present. More recently he has shown that the embryos may be recovered from the blood of the ear vein of experimental animals by the use of this method (given below), though the number of parasites is much less than in the heart blood. In seven guinea-pigs he found one to three parasites in the blood, in five of these, using only 0.05 to 0.3 c.c. of blood. He therefore believes that it is highly probable that in man the blood obtained from the finger or ear in cases of trichinosis may show the parasites, and thus excision of the muscle may be obviated. In filariasis the parasites are often present in such number that they are readily seen in preparation of fresh blood. Stäubli has had one case in whose blood this method gave negative results, but by diluting the blood with acetic acid and centrifugalizing he was able to demonstrate the filaria. He suggests the use of his method of examination in other conditions which, however, seem less promising. In using Stäubli's method only blood which flows freely should be used, and the pipette should first be washed out with 3 per cent. acetic acid. The apparatus must be carefully cleaned before using. The blood is then diluted with 10 to 15 volumes of the acid; 3 per cent. acetic is always strong enough to cause complete laking of the red cells, but weaker solutions were found to be unsatisfactory in some cases. So far as Stäubli has observed the acid is not injurious to the parasites. After centrifugalizing the sediment is examined fresh or smears are made and stained, preferably with Giemsa's or Jenner's stain.

Basophilic Granulation of the Erythrocytes in Embryos.—NAEGELI (*Folia Hæmatologica*, 1908, v, 525) has examined the blood of the embryos of the rabbit, guinea-pig, mouse, sheep, and pig, and in all of these he found basophilic granules in the red cells. He believes the same results would be found in the blood of human embryos if it were possible to examine the blood of embryos not still-born. In some of his specimens more than 70 per cent. of the red blood cells showed basophilic granules. The results in all instances were comparable. Very interesting findings were obtained from examining rabbit embryos of different ages. All specimens were stained with Giemsa's stain. (1) Embryos 0.7 to 0.8 cm. long. Practically all the cells are polychromatophilic megaloblasts, with relatively large well-preserved nuclei. There were many mitoses (monasters and diasters), always with basophilic granules in the protoplasm. (2) Embryos of 1.4 to 1.5 cm. Very many magaloblasts, both orthochromatic and slightly polychromatic were found, none, however, with basophilic granules. Ninety-five per cent. of these megaloblasts show small blue particles of nuclear material, usually three to five in number, often collected in small colonies, but occasionally isolated. Rarely these nuclear derivatives, when situated close to the nucleus, are stained deep red. The first generation of the blood cells (the large forms) lacks basophilic granules. The second (smaller) generation of erythrocytes even now predominates. Normoblasts are very frequent, always markedly polychromatophilic, and some cells contain a central red mass of chromatin, others many fine basophilic granules. In cells in which the polychromatophilia is less marked basophilic granules are fewer and coarser. Normoblasts in mitosis are always strongly polychromatophilic and show basophilic granules. (3) Embryos 2.2 cm. long. The blood of these embryos shows many rather large orthochromatic red cells, often with basophilic granules and frequently with a red chromatin particle centrally placed. The normocytes are the same as in the last group. (4) Embryos 5 cm. long. The majority of all cells are orthochromatic normocytes with basophilic granules. Often thse cells show a red nuclear particle centrally placed; frequently the nuclear particle is situated peripherally. In the latter arrangement, however, the basophilic granules are never found in the same cell. (5) Embryos 10 cm. long. The macrocytes are now lacking. Often one finds normocytes with centrally or peripherally placed nuclear particles. No cells are found which show basophilic granulation.

These results demonstrate conclusively the constant presence of basophilic granules in the blood of embryos. Whether the granules arise from the nucleus or the protoplasm, Naegeli is unwilling to state as yet. He describes and pictures three kinds of basophilic substances in red cells of embyros: (1) Red chromatin rests usually centrally placed, becoming gradually smaller with the increasing age of the embryo, may be found, especially shortly before birth. He has seen similar structures in pathological blood in man in cases of pernicious anemia, lead poisoning, and anemia pseudoleukemica. Not inrfequently such cells show basophilic granules as well. (2) At times one finds one to two peripheral nuclear particles in the red cells, and these have also been found in pernicious anemia, lead poisoning, anemia from hemorrhage, and chlorosis. They represent the last remnant of the nucleus, and are not found in early embryonal life. (3) Particles which are apparently